Ontario

Ontario Ministry of Agriculture, Food and Rural Affairs

2001 SUPPLEMENT

Nursery and Landscape Plant Production Recommendations

Publication 383S

Pesticide Changes/Additions/Deletions

CROPS	PG #	REVISION
ABIES — fir	39	Under *Spruce budworm* and *Control* **ADD** "Mimic 240LV, 290 mL per ha" Under *Remarks* **ADD** "Allow 3–7 days for larval mortality. A second application of Mimic 240LV may be required."
ACER — maple	40	Under *Pest*, **ADD** "Whitemarked Tussock moth (*Orgyia leucostigma*)" Under *Control*, **ADD** "Mimic 240LV, 290 mL per ha." Under *Remarks*, **ADD** "A large caterpillar (up to 3 cm long) with a multicolour body marked by 2 tufts of black hairs behind the head and white hairs along the sides of the abdomen. Caterpillars are found throughout the growing season on many species of deciduous and evergreen trees. Allow 3–7 days for larval mortality. A second application of Mimic may be required." Under *Pest* **ADD** "Anthracnose" Under *Control*, **ADD** "Banner 130 EC, 340 mL per 1000 L water" Under *Remarks*, **ADD** "Leaves are infected as they emerge in the spring. Causes irregular brown lesions, often in between veins. Leaves may be distorted. Apply Banner every 14 days, as buds break and leaves unfold in the spring. Do not exceed more than 4 applications per year. To avoid chemical resistance, rotate Banner with fungicides from other chemical families. Collect and destroy fallen leaves in autumn, as they are a source of spores the following spring.
AMELANCHIER — serviceberry	41	**ADD** table for Amelanchier. Under *Pest*, **ADD** "Cedar-apple rust (*Gymnosporangium* sp.)" Under *Control*, **ADD** Nova 40W, 250–340 g/1000 L water Under *Remarks*, **ADD** Treat when sporulation begins on alternate host, *Juniperus*, in mid spring. Spores from *Juniperus* hosts can infect Rosaceous plants (*Malus, Crataegus, Amelanchier* etc.). Repeat fungicidal application every 10–14 days if needed. Rotate Nova with other chemical families to manage resistance.

CROPS	PG #	REVISION
AZALEA — azalea	41	**ADD** AZALEA. Under *Pest*, **ADD** "Powdery mildew" Under *Control*, **ADD** "Banner 130 EC, 420 mL per 1000 L water" Under *Remarks*, **ADD** "Whitish powder appears on the tops of leaves in summer. Is most prevalent during hot days and cool nights. Apply Banner every 14 days when mildew first appears. Do not exceed more than 4 applications per year. To avoid chemical resistance, rotate Banner with fungicides from other chemical families. This fungus overwinters on leaves, collect and destroy fallen leaves where possible."
CORNUS — dogwood	43	Under *Pest*, **ADD** "Anthracnose" Under *Control*, **ADD** "Banner 130 EC, 340 mL per 1000 L water" Under *Remarks*, **ADD** "Leaves develop brown lesions in spring, often between veins. Leaves may become deformed and drop off. This fungus infects leaves as they are emerging in the spring. Apply Banner every 14 days as buds break and leaves unfold. Do not exceed a maximum of 4 applications per year. To avoid chemical resistance, rotate Banner with fungicides from other chemical families."
JUNIPERUS — juniper	47	Under *Cedar-apple rust* and *Control*, **ADD** Eagle WSP, 300 g/1000 L water (1 pouch in 280 L water) Under *Remarks*, **ADD** "Starting in mid summer, apply Eagle WSP every 10–14 days when infected Rosaceous hosts (*Malus, Crataegus, Amelanchier* etc.) are sporulating. Rotate Eagle with fungicides from other chemical families to manage resistance. (Eagle can also be tank mixed with Dithane DG @ 1.5 kg/1000 L water.)"
MALUS — crabapple	49	Under *Pest*, **ADD** "Codling moth (*Cydia poinonella*)" Under *Control*, **ADD** "Confirm 240F 1 L/hectare (or 330–600 mL/1000 L water)" Under *Remarks*, **ADD** "Repeat application of Confirm every 14–21 days, with a maximum of 4 applications per year."
MALUS — crabapple	50	Under *Pest*, **ADD** "Powdery mildew (*Podosphaera leucotricha*)" Under *Control*, **ADD** "Nova 40W, 340 g/1000 L water" Under *Remarks*, **ADD** "A whitish substance develops on the tops of leaves, may lead to stunting and leaf drop. Treat when symptoms first appear. Repeat every 10–14 days as needed. Rotate with other chemical families to manage resistance. See *ROSA* for further remarks. " Under *Cedar-apple rust* and *Control*, **ADD** "Nova 40W, 340 g/1000 L water" Under *Remarks* **ADD** "Treat when sporulation begins on alternate host, *Juniperus*, in mid spring. Spores from *Juniperus* hosts can infect Rosaceous hosts (*Malus, Crataegus, Amelanchier* etc.). Repeat fungicidal application every 10 –14 days if needed. Rotate Nova with other chemical families to manage resistance." Under *Apple scab* and *Control*, **ADD** "Nova 40W, 340 g/1000 L water and Banner 130 EC, 170 mL per 1000 L water" Under *Remarks*, **ADD** "Nova and Banner are triazole fungicides, rotate their use with other chemical families to manage resistance. Do not exceed a maximum of 4 applications of Banner per year. Banner is registered for use on ornamental and non-bearing apples only."

CROPS	PG #	REVISION
PICEA — spruce	51	Under *Spruce budworm* and *Control*, **ADD** "Mimic 240LV, 290 mL per ha" Under *Remarks* **ADD** "Allow 3–7 days for larval mortality. A second application of Mimic may be required."
POPULUS — poplar, aspen	55	Under *Leaf spot* and *Control*, **ADD** "Senator 70WP, 1 kg/1000 L water (per hectare)" Under *Remarks*, **ADD** "Applications of Senator 70WP can repeated every 10–14 days with a maximum of 3 applications per year."
PYRACANTHA — firethorn	57	Under *Scab* and *Control*, **ADD** "Banner 130 EC, 170 mL per 1000 L water" Under *Remarks*, **ADD** "Infection causes dark zones on leaves which develop into yellow lesions. Infected leaves may drop and dull scabs may appear on twigs and fruit. Apply Banner every 14 days, beginning at green tip of leaf buds. Rotate Banner with fungicides from other chemical families to avoid resistance. Do not exceed a maximum of 4 applications of Banner per year.
RHODODENDRON — rhododendron	58	Under *Pest*, **ADD** "Powdery mildew" Under *Control*, **ADD** "Banner 130 EC, 420 mL per 1000 L water" Under *Remarks*, **ADD** "White powdery growth appears on leaves, especially during hot days and cool nights. Apply Banner at the first sign of disease, every 14 days. Rotate Banner with fungicides from other chemical families to avoid resistance. Do not exceed a maximum of 4 applications per year.
ROSA — rose	60	Under *Powdery mildew* and *Control*, **ADD** "Nova 40W, 340 g/1000 L water" and Eagle WSP, 30 g/100 L water (1 pouch in 280 L water)" Under *Remarks*, **ADD** "Apply Nova and Eagle every 10–14 days and rotate with fungicides from other chemical families to manage resistance." Under *Powdery mildew* and *Control*, **ADD** "Senator 70WP, 500–750 g/1000 L water and Banner 130 EC, 420 mL per 1000 L water" Under *Remarks*, **ADD** "Repeat applications of Senator and Banner every 10–14 days as needed. Rotate Banner with fungicides from other chemical families to avoid resistance. Do not exceed a maximum of 4 applications of Banner per year." Under *Black spot* and *Control*, **ADD** "Eagle WSP, 30 g/100 L water (1 pouch in 280L water)" Under *Remarks*, **ADD** "Apply Eagle every 10–14 days and rotate with fungicides from other chemical families to manage resistance." Under *Black spot* and *Control*, **ADD** "Senator 70WP, 500–750 g/1000 L water" Under *Remarks* **ADD** "Repeat application of Senator every 10–14 days as needed." Under *Botrytis* and *Control*, **ADD** "Senator 70WP, 500–750 g/1000 L water" Under *Remarks*, **ADD** "Repeat application of Senator every 10–14 days as needed."
TSUGA — hemlock	64	Under *Hemlock looper* and *Control*, **ADD** "Mimic 240LV, 290 mL per ha" Under *Remarks*, **ADD** "Allow 3 –7 days for larval mortality after application of Mimic. A second application may be required."

Replace Table 3-11, page 36, with new table below

TABLE 3-11. Chemical Families

An	aliphatic nitrogenous compound
Arom	aromatic hydrocarbon
Ben	benzimidazole
Dicarb	dicarboximide
Dinitro	dinitrophenol
Dithio	dithiocarbamate
EBI	ergosterol biosynthesis inhibitor
IGR	insect growth regulator
Morph	morphactin
OC	organochlorine
OP	organophosphorous
Org	organatin
OX	oxithin
Ph	phthalimide
R	rodenticide
Syn.Pyr.	synthetic pyrethroid
Thia	thiadiazole

Additions to Table 3-12

Product Name	Type	Schedule	Common Name	Oral LD50 (mg a.i./kg)	Chemical Family
Banner 130 EC	F	2	propiconazole	1500	Tri
Confirm 240F	I	2	tebufenozide	>5000	Hydra/IGR
Eagle WSP	F	2	myclobutanil	1600	Tri
Mimic 240LV	I	2	tebufenozide	>5000	Hydra/IGR
Nova 40W	F	2	myclobutanil	1600	Tri
Senator 70WP	F	2	thiophanate-methyl	7500	Benzim

Replace APPENDIX B with new table below

ONTARIO MINISTRY OF THE ENVIRONMENT PESTICIDE CONTROL OFFICES		
REGION **County**	**PESTICIDES OFFICER** **Address**	**TELEPHONE**
Central Region Toronto, Halton, Peel, York, Durham	**Charles Zubovits** 5775 Yonge St, 8th Floor Toronto, Ontario M2M 4J1	(416) 326-3671 Toll Free 1-800-810-8048 Fax (416) 325-6347
West-Central Region Haldimand-Norfolk, Niagara, Hamilton-Wentworth, Dufferin, Wellington, Waterloo, Brant	**Paul McCubbin** Ontario Government Building 119 King St. West, 12th Floor Hamilton, Ontario L8P 4Y7	(905) 521-7667 Fax (905) 521-7820
Eastern Region Frontenac, Hastings, Lennox & Addington, Prince Edward, Leeds & Grenville, Prescott & Russell, Stormont/Dundas & Glengarry , Haliburton, Peterborough, Victoria, Northumberland, Renfrew, Ottawa-Carleton, Lanark, District of Nipissing (Twsps of Airy, Murchison, Dickens, Lyell and Sabine)	**Andrew Morley** **Laurel Grills** 133 Dalton Avenue P.O. Box 820 Kingston, Ontario K7L 4X6	(613) 549-4000 Fax (613) 548-6908 Toll Free 1-800-267-0974
Southwestern Region Elgin, Middlesex, Oxford, Essex, Kent, Lambton, Bruce, Grey, Huron, Perth, Simcoe	**Doug Morrow** **Wray Lampman** 695 Exeter Road, 2nd Floor London, Ontario N6E 1L3	(519) 873-5041 (519) 873-5048 Fax (519) 873-5020
Northern Region Manitoulin, Nipissing, Parry Sound, Sudbury, Algoma East, Cochrane East, Muskoka Kenora, Rainy River, Thunder Bay, Algoma West, Cochrane West, Timmins	**John Negusanti** 199 Larch Street, Ste 1101 Sudbury, Ontario P3E 5P9	(705) 564-3249 Fax (705) 564-4180
	Don Mitchell 435 James St. S., Suite 331 Thunder Bay, Ontario P7E 6S7	(807) 475-1712 Fax (807) 475-1745
Standards Development Branch	Pesticides Section 40 St. Clair Avenue West, 7th Floor Toronto, Ontario M4V 1M2	(416) 327-5519 Fax (416) 327-2936
Approvals Branch	Pesticides Licensing 2 St. Clair Avenue West, 12A Floor Toronto, Ontario M4V 1L5	(416) 314-8001 Fax (416) 314-8452

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Ontario Ministry of Agriculture, Food and Rural Affairs Contacts

Agricultural Information Contact Centre
Phone: (877) 424-1300 or (519) 826-4047
Fax: (519) 826-7610
E-mail: ag.info@omafra.gov.on.ca
Address: 1 Stone Road West, Guelph Ontario N1G 4Y2

Provides province wide, toll free technical and business information to commercial farms, agri-businesses and rural businesses.

A complete list of Ontario Ministry of Agriculture, Food and Rural Affairs — Crop Technology Staff is available on our **Web site** at www.gov.on.ca/OMAFRA/english/crops

Each year the appropriate sub-committee of the Ontario Pest Management Research and Services Committee reviews the pesticides listed in this publication. To the best knowledge of the sub-committee, all of these pesticides were:

- federally registered
- reviewed by the Ontario Pesticides Advisory Committee (OPAC) and
- classified by the Ministry of the Environment as of November 2000

Discard old editions of this publication.

The information in this publication is general information only. All pesticides must be used in accordance with the product label and Regulation 914 under Ontario's *Pesticides Act.*

Pay close attention to all instructions and warnings on the pesticide label.

By printing this publication, the Ministry of Agriculture, Food and Rural Affairs does not offer any warranty or guarantee, nor does it assume any liability for any crop loss, animal loss, health, safety or environmental hazard caused by the use of a pesticide mentioned in this publication.

Policy Statement

In this publication, most recommendations list several pesticides that can be used for each pest discussed. In general the least hazardous materials and those growers have used satisfactorily for years are listed first. More toxic pesticides and/or newer ones with less practical grower experience follow. In some cases, the most effective pesticides are highly toxic.

This publication lists a number of brand names of pesticides. This is for the grower's convenience only. It is neither an endorsement of the product nor a suggestion that similar products are ineffective.

Weather and other factors influence the effectiveness of pesticides and the likelihood of crop injury by pest control chemicals. Consult the product label and other information regarding compatibility with other materials, the effect of environmental conditions, and so on for the specific product being considered. Wettable or soluble powders (WP, SP, WDG or DG) are less likely to cause plant injury than liquid concentrates (EC, SC and F).

Health Canada has established maximum residue limits (MRLs) for pesticides. However, growers should be aware that processors or retailers may demand more restrictive limits. Growers should seek advice of their intended market as to which restrictions or limitations apply. Growers are also encouraged to keep accurate and up to date records on pesticide use in each crop.

Federal Registration and Provincial Classification

The Ministry of the Environment administers Ontario's *Pesticides Act* and Regulation 914.

All pesticides sold and used in Ontario must be:

- registered under the federal *Pest Control Products Act,* and
- classified under the provincial *Pesticides Act* by being placed in one of six schedules of the Ontario regulation.

Federal Registration

The Pest Management Regulatory Agency (PMRA) of Health Canada grants registration following an evaluation of scientific data to ensure that the product has merit and value; and the human health and environmental risks associated with its proposed use are acceptable.

1. Full Registration

Pesticide registrations are normally granted for a period of five years, subject to renewal.

2. Temporary Registration

Temporary registration may be granted for a period not to exceed one year, where the registrant agrees to produce additional scientific or technical information, or the pesticide is used for emergency control of a serious pest outbreak.

For more information on the federal registration system contact the PMRA at 1-800-267-6315 or www.hc-sc.ca/pmra-arla.

Provincial Classification

There are six classification schedules in Regulation 914. Pesticide products are classified based on their toxicity, environmental or health hazard, persistence of the active ingredient or its metabolites, concentration, and usage. This system regulates the distribution, availability and use of pesticide products in Ontario. For up-to-date information on the regulatory status of these or other pesticides contact the:

Ontario Pesticides Advisory Committee (OPAC),
2300 Yonge St., Suite 1203, Toronto, ON, M4P 1E4
Telephone (416) 314-9230 Fax (416) 314-9237
www.opac.gov.on.ca

Farmer Certification

Regulation 914 of the *Pesticides Act* makes it mandatory for farmers to be certified through the Grower Pesticide Safety Course to buy and use Schedules 1, 2 or 5 pesticides on land they farm. There must be at least one Certified Grower for each farm operation.

As of January 2000, all assistants must receive formal pesticide safety training, recognized by the Ministry of the Environment, before they can use Schedule 2 or 5 pesticides under the supervision of a Certified Grower. This applies to all assistants — including family members, farm employees and seasonal workers.

For more information check the Ontario Pesticide Education Program Web site at www.ridgetownc.uoguelph.ca/opep/ or call **1-800-652-8573 or (519) 674-1580**

Cette publication est aussi disponible en français.

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